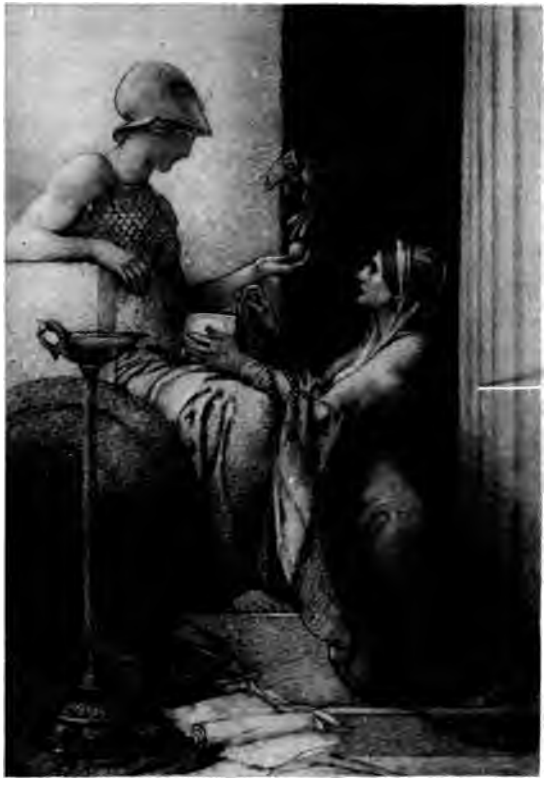
BOOKS AND LIBRARIES

CHIPMAN



BOOKS AND LIBRARIES

THEIR MAKERS AND THEIR USE

AN OUTLINE COURSE FOR THE USE OF STUDENTS

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PREFACE

This book has grown out of the author's work with the students of Colby College and is designed to meet their needs. It makes no claim to completeness or originality. As the title page indicates, it is intended merely as an outline, to be supplemented by lectures and practical work in the college library, with especial emphasis upon the actual use of the books. The chapters of Part II have purposely been made very brief, since they serve simply as a starting-point for the student's study at first hand of the arrangement and use of the library. The facts presented have been gathered from a score of authorities; they have been rearranged in what has seemed the most effective form to meet the requirements of the Colby student.

The author wishes to acknowledge here his indebtedness to Professor Clarence H. White, of the Department of Greek in Colby College, who has very kindly read the manuscript and has made many valuable suggestions.

CHARLES PHILLIPS CHIPMAN.

Colby College, July 1, 1914.

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"The library of wisdom is more precious than all riches, and nothing that can be wished for is worthy to be compared with it. Whosoever, therefore, acknowledges himself to be a zealous follower of truth, of happiness, of wisdom, of science, or even of faith, must of necessity make himself a lover of books."

PART I

The Making of Books

Books and Libraries

I

HOW WE GOT THE ALPHABET

1. INTRODUCTION. The popular conception of conditions in the world of books prior to the invention of printing probably consists in a more or less hazy notion that libraries did not exist and that books were rare curiosities, to be found chained up in churches or in the cloistered recesses of the monasteries. The often quoted words of the Hebrew sage, "Of making many books there is no end", have apparently aroused in the average student of the Bible no curiosity as to whether or not books were common in that early day.

The misconception arises from confusing the conditions which marked the dark period known as the "middle ages" with the other and quite different conditions of the earlier ages. In the later classical times which just

preceded the middle ages, public libraries were far from uncommon, as we shall discover farther on in our study, and these libraries flourished under the patronage of wealthy and public spirited citizens until the destruction of the old civilization came with the descent of the barbarian hordes from the north. But hundreds of years before the rise of the Roman Empire there existed in Assyria libraries which were, in a measure at least, public; and even before these Assyrian libraries came into existence Egypt was a land of literary activity, where books on history, philosophy, and medicine, and even novels, were written and, it is to be presumed, were also read.

Some of these ancient libraries were really remarkable collections, if we take into consideration the fact that every book was patiently copied out by some painstaking scribe. It is equally true, however, that they were not for the use of the general public in the same sense as are the libraries of to-day; they were for the scholars, the learned few. Not until the invention of printing had made possible the production of books in large numbers at a small cost, and the modern system of education had trained

a reading public, could the free public library come to its present stage of development.

In the pages which follow we shall attempt to trace in outline the history of books and book-making as a preparation for a more intelligent and appreciative use of the rich stores of knowledge bequeathed to us by all the ages and made available for our use by modern inventive genius.

2. THE EARLIEST WRITINGS. History does not tell us when man began to put thoughts into writing. How far back in the twilight of human development the beginning was made, we cannot know; but it is probable that the first steps were identical with the rude beginnings of art. With the earliest glimmerings of intelligence man began to scratch on bits of bone, on the deer horns won in the chase, or paint upon the rocky walls of his cave dwellings, rude representations of beasts and birds. By what chance he learned to convey a message to his fellows by means of these pictures, or at just what stage the discovery was made, we can never know. But the step was taken, sooner or later, by race after race as it emerged from savagery on its upward journey to civilization.

At first this was no more than its name indicates—picture-writing; the *pictures* of the message stood for the *objects* they represented. But as time passed and man's inventiveness increased, the use of picture-writing developed in two separate directions. From using the pictures to represent things, it was not a difficult step to use them to represent *ideas,* and so ideographic picture-writing came into being. The earliest Egyptian hieroglyphics were of this sort as were also the Chinese.

3. PHONETIC PICTURE-WRITING. Another development was in a different direction, and on the road which eventually led to the invention of the alphabet. Professor E. B. Tylor has described this step as follows:

"How men may have made the next move toward writing may be learnt from the common child's game of rebus, that is, writing words 'by things'. . . . Thus if one writes the word 'waterman' by a picture of a water-jug and a man, this is drawing the meaning of the word in a way hardly beyond the American Indian's picture of the king-fisher. But it is very different . . . . when one finds the drawing of a water-can, a man being shot, and a date-fruit, this represent-

ing in rebus the word 'can-di-date'. For now what the pictures have come to stand for is no longer their meaning, but their mere sound. This is true phonetic writing, though of a rude kind, and shows how the practical art of writing came to be invented."

This invention was made more than once and in different ways. The phonetic forms were often used in combination with the ideographic forms. This was true in Egypt, where both the phonetic and ideographic forms continued in use together for centuries without ever developing into the alphabet; and also in Mexico, where proper names were represented phonetically.

4. SYLLABARY AND ALPHABET. A natural outgrowth of the phonetic picture form was the syllabary, in which a picture was given a conventionalized form, more or less simplified for rapid writing, and came to stand for a given syllable. In some such way the Japanese syllabary was evolved from the Chinese forms, although the latter were ideographic rather than phonetic.

The Phoenicians have been given the credit for first using a true alphabet in place of the earlier devices. They are said to have adapted the forms of Egyptian hieratic writ-

ing (which was a cursive style developed from the formal hieroglyphics) to the consonant sounds of their own tongue. This probably took place about the tenth century B. C. Whether they were actually the first to make use of an alphabet may be questioned, but there is less reason for doubting that the Phoenicians passed it on to the Greeks, who, not having so many consonant sounds as the Phoenicians, assigned certain letters to their vowels. The alphabet has undergone many changes as it has passed on from language to language. For example, the Italian alphabet contains only twenty-two letters whereas the English has twenty-six and the Russian has thirty-six.

5. SUBSTITUTES FOR WRITING. Certain races, notably the Incas of Peru, attained to a comparatively high degree of civilization without inventing a written language. The Peruvians used as a substitute the device known as the *quipus*. This consisted of a number of cords of varying colors, in which a series of knots were tied to serve as an aid to memory. It is claimed that such a degree of proficiency had been attained in the use of the quipus that extensive records could be kept by its aid. Unfortunately we

have no means of knowing just how much of truth there is in these claims as the use of the quipus is a lost art. Similar systems of knots have been used as aids to memory by other primitive races.

6. WRITING MATERIALS. The early materials on which written records were inscribed were as crude as the pictures themselves. Smooth pebbles, horn, the bark of trees, skins and, later, tanned hides,—all these were used. Later the metals—gold, silver, brass, and lead—were made use of. Lead was especially popular for preserving incantations and magic formulas. Linen and silk cloth are also among the materials pressed into service. The Assyrians and their neighbors made use of tablets of baked clay. But the three materials which have played the most important part in the history of writing and book-making are papyrus, parchment, and paper.

II

RECORDS PRESERVED BY BURNING

7. Long before the evolution of the alphabet, or at least prior to any existing literary records in which it is used, books were in existence. It is true these records were not in the form to which we now give the name book, but in a form which, however crude, served the same purpose as do the books of to-day and is therefore worthy of the same title.

8. ASSYRIAN CUNEIFORM RECORDS. The literary remains of the Assyrians and their neighbors are preserved in a form which is outside the line of development that has given us our modern book, and for this reason they will be considered here, although chronologically they belong to a later date. The writings of the Assyrians which have come down to us are inscribed upon tablets, cylinders, and prisms of clay. Upon these, in their original soft state, the writings were made by means of a metal stylus. The tab-

lets were then dried and baked to the hardness of brick, producing a well-nigh imperishable record.

The writing upon these tablets is known as "cuneiform" script from the "wedge-like" shape of the characters. This method of writing did not originate with the Assyrians, but was borrowed by them from their kinsfolk, the Babylonians, who in turn borrowed it from an earlier race of a different stock. This race, the Accadians, occupied the territory which later became known as Chaldea or Babylonia, and had attained a considerable degree of civilization when they were conquered by the Babylonians. The latter adapted the Accadian script to their own tongue. It was partly ideographic and partly phonetic. Both the script and the method of preserving records in clay were probably in use as early as three thousand years before the Christian era. On the site of the ancient city of Nippur there has been unearthed a collection of these clay tablets numbering 40,000, the oldest of which date from about the year 2,500 B. C. They are partly temple archives, but include also textbooks and other works of a more literary character.

The Assyrians filed their clay records for convenient reference in large jars, which they arranged in order upon shelves. Each jar had its label, inscribed on a small tablet of clay and attached to the outside of the jar, which showed the nature of the contents. Catalogues were made and likewise inscribed on small tablets: possibly we may look upon this as the forerunner of the modern card catalogue.

The tablets and cylinders of the Assyrians varied greatly in size, but even the largest were not sufficiently large to afford room for the more extended works, so that two or more tablets were often required for a single record. Serviceable as was this method,—and indestructibility was among its chief advantages,—it possessed features that rendered it unfit to survive in competition with the more convenient methods which grew up among the nations to the west.

9. ASSYRIAN LIBRARIES. We are told that collections of cuneiform writings were to be found in most towns and cities of Babylonia and Assyria. They were usually connected with the temple, for everywhere the priests were the first literary men, and the first "libraries" were no more than col-

lections of temple records, liturgies, and magic formulas. The Assyrian libraries, however, had advanced beyond the primitive stage. Both men and women (presumably of the upper classes only) were able to read and write. Schools existed, for use in which vocabularies, grammars, and mathematical tables were prepared. Pupils in those ancient days were evidently much like those of to-day, for among the tablets which have survived to the present day are interlinear translations made for their use. Some of the literary works which were popular among these ancient peoples have come down to us, and may some day be translated into English for the delight of modern readers.

Mention has already been made of the library discovered at Nippur. Another was unearthed on the site of ancient Nineveh. This contained ten thousand separate works, all properly classified and catalogued. The larger part of this Nineveh library has been transferred to the British Museum in London. Similar collections existed in other cities and towns which have been uncovered by the spade of the archaeologist.

10. CRETAN RECORDS. The recent dis-

coveries in Crete are of interest in this connection in view of the use made there of clay tablets for preserving written records. The Cretan tablets, however, were sun-dried and not baked and it is probable that they would not have been preserved until the present, had not the fire that destroyed the buildings in which they were housed baked them to an enduring hardness. Thus the greatest enemy of the modern library was the preserver of these ancient archives.

The Cretan civilization flourished between 2,200 B. C. and 1,200 B. C., and in this period the Cretan writing developed from the hieroglyphic form to a linear script. Some authorities even go so far as to assert that they actually invented the alphabet and that from them the Phoenicians learned its use. But inasmuch as no one has yet been able to decipher the Cretan records, we do not know whether they are merely syllabic or actually employ an alphabet.

The discoveries at Knossos and other sites in Crete include hundreds of tablets. These seem to be almost entirely commercial or official in nature. They were kept, not in jars as in Assyria, but in wooden chests, and seem to have been classified with con-

siderable care. There is reason for believing that the Cretans also made use of papyrus, or some similar material, for writing purposes, and it is possible that literary works may have existed which perished in the overthrow of the Cretan civilization.

III

PAPYRUS MANUSCRIPT ROLLS

11. THE USE OF PAPYRUS. One of the earliest direct ancestors of our modern printed book which is still in existence is a roll of papyrus containing eighteen columns of Egyptian hieratic writing of about 2,500 B. C. and preserving the maxims of one Ptah-hetep. This roll is now in the museum of the Louvre at Paris. Papyrus, the material on which this manuscript is written, is one of the three writing materials most widely used in the history of books, and is the most ancient of the three. It was manufactured from the pith of a reed grown chiefly in Egypt, and it is believed that it was first used there for writing purposes as early as six thousand years ago. From Egypt the use of papyrus spread to other countries of the ancient world, although we do not know just when this wider use began. In time it came to be the common writing material for all the civilized world bordering on the Mediterranean. It continued to

be commonly used through the classical period and on into the early centuries of the Christian era, when it was gradually displaced by parchment. It was, however, used for papal bulls as late as the year 1022 A. D. The Greeks called papyrus *biblos,* from which came their word for book, *biblion,* and from *biblion* we in turn have derived our own word *bible.*

12. PROCESS OF MANUFACTURE. Papyrus was made by cutting the pith of the papyrus reed into long, thin strips. These strips were laid side by side, as closely as possible, upon a board. A second layer was spread across the first at right angles, probably with a coating of paste or gum between. The two layers of strips were then soaked with water and pressed or hammered into a sheet somewhat resembling our paper. These sheets were dried, then bleached in the sun, and finally smoothed by scraping. The finished sheets were trimmed to a uniform size, which depended upon the length of the strips of pith of which they were made. Sheets of the best quality are said to have been ten inches wide and twelve or thirteen inches long: not far from the same size as our sheets of foolscap or legalcap paper.

13. How the Rolls Were Made. Only one side of the sheet was used for writing, that which was formed by the horizontal layer of strips. These still showed after the manufacturing process was completed and served the same purpose as ruled lines in guiding the pen of the writer. The pen used was made from a hollow reed in much the same fashion in which quill pens were made in the days of our grandfathers. (Quill pens did not come into use until the middle ages.) Metal pens, the pen and handle formed in one piece, were also used. The ink, made of soot and water or soot and vinegar, was more like paint than ink as we know it. While still moist it was easily erased with a damp sponge, and even after it had become dry it could be washed away sufficiently to allow the sheet to be used a second time. When the original writing had been thus erased and the papyrus was used a second time, the resulting manuscript was known as a *palimpsest.*

For purposes of correspondence and for brief official documents a single sheet of papyrus was sufficient, but for larger documents and for literary purposes more than one sheet was necessary. These were not

sewed together into a book, but were arranged side by side and fastened together into one long sheet by gluing the edges together. The writing thus ran parallel with the length of the long strip and formed a succession of perpendicular columns. A thin stick of wood was fastened to each end of the strip, and the completed manuscript was rolled tightly about the stick attached to the last sheet. The writing was rolled inside. This brought the beginning of the manuscript, with its thin wooden stick, or edge, at the outside of the roll, so that on opening it the first page, or column, of writing would appear. Such a manuscript was known to the Romans as a *volumen,* from which comes our word *volume.*

The top and bottom of the roll were trimmed, and sometimes were colored, just as the tops of modern books are often gilded. Knobs were frequently placed upon the ends of the wooden sticks to aid in rolling or unrolling the manuscripts. Illustrations were sometimes used, and a portrait of the author often appeared upon the title page. A slip of parchment upon which was written the title of the work and the author's name was attached to the top of the roll. For the fin-

ished roll a parchment case or tube was made, into which the manuscript was slipped from the top, and above which the parchment title-slip was visible. In the case of a large work occupying two or more rolls, a round wooden case large enough to contain them all was used.

14. In reading, the roll was held in both hands and unrolled column by column, the part read being rolled up on the wooden stick attached to the outer edge. When the reading was completed, the roll was, of course, completly reversed and it was necessary to re-roll the manuscript before returning it to its case. This required some little time and patience, besides increasing the wear on the manuscript.

At first there seems to have been no limit to the length of the roll other than the taste or the whim of the writer, and manuscripts were made in Egypt on rolls more than one one hundred and fifty feet long. It is said that in Greece the complete works of Homer were written upon a single roll, as were also the works of Thucydides. If this is true, the works of Thucydides must have made a roll nearly two hundred and fifty feet long. These large rolls were very inconvenient to

handle and were liable to tear from their own weight in reading. The scholars of Alexandria are credited with the device of dividing lengthy works into "books", each of which was inscribed upon a separate roll. So sensible was this plan that the manufacturers of papyrus adopted the custom of selling their wares in ready-prepared rolls of lengths convenient for works of various classes.

Many papyrus rolls have survived the accidents of time and large collections of them are to be found in the leading libraries and museums of Europe. Most of them are badly damaged, and none contain any complete Latin work of importance. The oldest in existence is the roll already mentioned as containing the maxims of Ptah-hetep, written about 4,500 years ago.

It has already been stated that papyrus manuscripts were written on only one side of the roll. In case the original writing had served its purpose and was no longer considered valuable, it sometimes happened that for economy's sake the back was used for transcribing new material. In 1890 the British Museum came into possession of a papyrus roll from Egypt written about 79

A. D. It contained a series of accounts of a farm bailiff, or steward, a thing of no great importance, but on the back some later hand had copied Aristotle's "Constitution of Athens". For more than a thousand years no copy of this famous work had been known to be in existence, and it had been given up as totally lost. Its recovery was one of the most important events of the sort during the nineteenth century and leads to the hope that the tombs of Egypt may yet give up other works of Greek and Latin authors which have been counted as lost forever.

15. ANCIENT BOOKSELLING. We know very little about the production of books in ancient Egypt. It is probable that there was no trade in books such as we know to-day. Doubtless the scribes connected with the temples, or in the service of the rulers, were kept busy preparing manuscripts for religious and official use. The well-to-do may also have employed slaves for similar purposes, but the whole question is one about which our knowledge it too limited for any detailed account to be given.

There is also reason to believe that in Greece itself, even during the period of greatest literary activity, there was no or-

ganized trade in books. Probably there was no such thing as a "reading public", and the only collections of books were those in temple and state archives, or in the hands of some individual scholar or group of scholars. The first steps in the direction of a publishing business were taken at Alexandria, in Egypt, under the Ptolemies. Even there the books produced were probably almost entirely copies of books already accepted as "classics".

For any extensive publication of the works of living authors we must come down to the closing years of the Republic at Rome. Probably the authors at first had no direct interest in the sale of their own works. As is the case now, so then there was nothing to prevent anybody who wished to do so from making a manuscript copy of any literary work, provided he could secure a copy for the purpose. An author could depend on the sale of only such copies of his book as he could make himself, or have made, before it was published. Cases are on record of copies being made without the knowledge of the author and being offered for sale in advance of the official publication.

Bookshops existed in Rome before there

was any organized business of publishing. We are not told just how they obtained their supply of books. Probably these were secured from individual copyists who devoted their time to this work. Publishing on a commercial scale, as a regularly organized business, seems to have begun in the time of Cicero. At that day it became fashionable for the rich to possess libraries. This was largely due to the libraries brought to Rome by Sulla, secured as the spoils of war in Greece and Asia Minor.

Atticus, the friend of Cicero, was one of the earliest of these Roman publishers. He was a man of wealth, who acted as Cicero's agent in purchasing books, and who published Cicero's own writings and such other works as Cicero suggested. Under the empire the publishing business reached large proportions and publishers were also booksellers. So well organized was the business that Roman gentlemen in Gaul, on the Rhine, or even in the far off British Isles, were able to order by imperial post the latest works of the popular Roman authors of the day.

Of course, the publisher had no more control over a book once issued than its author had, and he was forced to rely for business on the excellence and cheapness of his books,

or on his ability to get a large number ready for sale in advance of the day of publication, so forestalling possible "pirated" editions.

The process of manufacture at this time was probably as follows: A large number of slaves, or of hired scribes, was employed, to whom a reader dictated the work from the author's copy. Other slaves took the finished sheets as fast as they were completed by the scribes, arranged them in order, pasted the edges together, mounted them, and supplied them with cases and titles. The Roman scribes are credited with being rapid writers. It is said that they were able to copy the Second Book of Martial's Epigrams (540 lines) in one hour. So in the case of small works a large number of copies could be made ready in a short time. In the event that a large demand for a given work was anticipated, no copies were placed on sale until a considerable edition was ready. Of some works it is believed that editions of as many as 1,000 copies were prepared.

The retail price of these books was less than we might expect. Martial's First Book of Epigrams, which makes about thirty pages of printed text, sold at the equivalent of thirty cents for the cheapest edition. His

Xenia, which is a shorter work, brought but twenty cents a copy. On the other hand, special editions, the correctness of which was vouched for by the publishers, brought much higher prices. Books were measured by the verse in poetry and by the line in prose and were rated accordingly. As the size of the sheets used varied, a standard line was adopted as the unit of measurement. This line contained 16 syllables, or 35 letters.

The rapidity with which the scribes worked led to many errors, of which author and purchaser alike made frequent complaint. The best publishers took great care in correcting copies, comparing them with the original, and these certified copies were more highly esteemed than carelessly made editions. But with the utmost care errors were more frequent than is the case in modern printed books.

"With the downfall of the Roman Empire, the organized book trade of Rome and of the great cities of the Roman provinces came to an end. This trade had of necessity depended upon an effective system of communication and of transportation, a system which required for its maintenance the well built and thoroughly guarded roads of the

empire; while it also called for the existence of a wealthy and cultivated leisure class, a class which during the periods of civil war and barbaric invasions rapidly disappeared. Long before the reign of the last of the Roman emperors, original literary production had in great part ceased and the trade in books of an earlier period had been materially curtailed; and by 476, when Augustulus was driven out by the triumphant Odovacar, the literary activities of the capital were very nearly at a close."*

16. EGYPTIAN AND GREEK LIBRARIES. Regarding the earliest Egyptian collections of books, our knowledge is meagre, but enough is known to assure us that as early as 4,000 B. C. scribes were kept busily at work recording official documents or transcribing priestly writings, as well as works of history, philosophy, medicine, and literature. Here, as elsewhere, the earliest collections were doubtless made in connection with the temples. The most famous library of a somewhat later period in Egyptian history was that credited to King Osymandyas, who is believed to have been identical with

*G. H. Putnam: Books and their makers during the middle ages. Preface, page viii.

Rameses II (1300-1236 B. C.) This library is supposed to have been housed in the Ramesseum at Western Thebes.

Very little is known concerning the libraries of ancient Greece. Putnam considers them to have been few and of no great importance. Pisistratus (605-527 B. C.) is given credit for being the first of the Greeks to collect a large number of books. It is known that Plato had a considerable library. Aristotle collected books, and on his death bequeathed them to his disciple, Theophrastus. This library, after many wanderings, is said to have been carried to Rome by Sulla.

We know that the libraries of Alexandria in Egypt were the largest and most valuable of the later Greek world. They were built up by the ambition and devotion of the Ptolemies, and were an attraction which drew to Alexandria a large number of scholarly men. No expense was spared in making them the greatest collections of their time. Ptolemy Philadelphus was the most energetic in his efforts to enrich these Alexandrian libraries, and to obtain additions he ransacked the Greek world. Many of the

old Egyptian and Hebrew books were translated into Greek at his direction.

There were two libraries at Alexandria, The larger was connected with the museum, in that quarter of the city known as the Brucheum, and is said to have contained nearly 500,000 rolls. The smaller was in the Serapeum, and probably did not exceed 45,000 rolls. It is to be remembered that these rolls were small, and that a work like the Iliad required twenty-four of them, so that the number of *titles* in these libraries was much smaller than the number of *rolls*. The names of several of the Alexandrian librarians have come down to us. One of these, Callimachus by name, prepared a catalogue of the books in the library of the museum, dividing them into 120 classes.

When Caesar burned the fleet in the harbor of Alexandria, it is said that the Brucheum accidentally took fire and the library there was destroyed. Antony presented to Cleopatra the library of Pergamum to replace it, and it seems to have been increased by later additions. It was finally destroyed by Aurelian in 273 A. D. The library of the Serapeum continued to exist for a century longer, but was pillaged by the Christians in 389 or 391.

As we shall see in the following chapter, the kings of Pergamum rivalled the Ptolemies in building up their royal library, which is said to have numbered 200,000 rolls when it was taken to Alexandria by Antony. German excavators at Pergamum unearthed in 1879-1886 the building in which this library had been kept.

17. ROMAN LIBRARIES. A library was in existence at Carthage when that city was taken by the Romans in 146 B. C. It was distributed among the various tributary cities of Africa, for the Romans had not yet reached the point where they appreciated the value of such a collection.

The first libraries of Rome, as already noted, came thither as the spoils of war and were in private hands. It soon became the fashion for men of wealth to own libraries. This was during the closing decades of the Republic. Some of these private collections contained as many as 60,000 rolls.

We know that Caesar planned to establish a public library, but this project was never carried out. The first public library at Rome was opened by C. Asinius Pollio. Later the Emperor Augustus established two public libraries, the Octavian and the Palatine.

Both of these were eventually destroyed by fire. His successors on the imperial throne followed his example in establishing libraries open to the public The most famous of these was that known as the Ulpian library, founded by Ulpius Trajanus. It is believed that there were more than a score of public libraries in the Imperial City in the fourth century A. D. Nor was the movement confined to Rome itself. Wealthy and public spirited citizens established free libraries in many cities of Italy and the various Roman provinces.

We even know the character of the library buildings erected by the Romans. The library at Ephesus has been discovered and we know its structural plan. There was a large reading-room, provided with seats. Book-rooms adjoined where the rolls were kept in closets, each class of books in a separate closet. Catalogues were prepared to facilitate the use of the books. The reading-room was ornamented with busts and statues of well-known authors. The lighting was of the most approved overhead style. The public librarian of this period was a public official of recognized standing. Among the discoveries at Herculaneum was a private

library containing 1,756 manuscripts, in a room especially arranged for them.

When Constantine removed the capital of the empire from Rome to Constantinople, he founded there a library which came to a very respectable size. It was the dispersion of this library in 1453 A. D. which led to the revival of learning in Europe. The removal of the seat of government from Rome changed the character of literary activity in the West; thereafter the western scholars neglected the Greek authors and devoted themselves to Latin.

With the growth of Christianity many libraries grew up in connection with the churches. These were naturally devoted to works relating to the Christian religion, and some of them grew to considerable size. That at Caesarea numbered 30,000 volumes.

IV

PARCHMENT BOOKS

18. THE INVENTION OF PARCHMENT. The use of hides and tanned skins for writing purposes was of very ancient origin, but it was not until about 200 B. C., or possibly even later, that an improvement in the method of preparing the skins was made which rendered them the equal of papyrus as a writing material. The story goes that Eumenes II, King of Pergamum, was an ardent collector of books for his royal library. The Ptolemies of Egypt had at that time amassed the greatest libraries of the world at Alexandria, and Eumenes came into conflict with them in his efforts to increase his own collection. The King of Egypt sought to gain the advantage over his rival by forbidding the exportation of papyrus from Egypt. Eumenes, thus obliged to find a substitute, invented a new method of curing skins which made them superior to papyrus for writing purposes, and the new material was known as *pergamena* in honor of the city where it

originated. Whether or not the story be true, there can be no doubt that Pergamum was famed for the excellence of its product and that from the name *pergamena* we have derived our word *parchment,* by which the material is still known.

At first parchment was used merely as a material for temporary writings. It required ruling to insure straight lines. The ruling was done by means of a ruler and a stylus, or bodkin, of metal. The lines thus ruled showed on the back of the sheet, and it was possible to rule several sheets at once. A finer pen could be used than for papyrus, owing to the smoother surface of the parchment, and for this reason a greater number of words could be written upon a line of given length. A different kind of ink was necessary, and in its preparation gallnuts were used.

19. THE PARCHMENT CODEX. As parchment could be written upon on both sides, the roll form was no longer used in making parchment books. Instead the sheets were folded so as to make two leaves, or four pages, like our modern sheets of letter paper. These sheets were sewed together in the same way that our books are sewed, and the

resulting form, since it resembled the tablets of wax which had long been used for temporary memoranda, was called by the same name, *codex*. The size of the parchment sheets varied, but the commonest when folded gave a page of about the size which we call quarto.

The flesh side of the parchment was lighter in color than the skin side, and so in arranging the folded sheets care was taken to have the color of the opposite pages the same. This was accomplished in the following manner: The first sheet was placed flesh side down, the second was laid upon the first with the hair side down, the third was placed upon the second flesh side down, and the fourth upon the third hair side down. The four sheets were then folded through the middle, making a *quire* of eight leaves, or sixteen pages, of which the second and third pages, the fourth and fifth, and so on, would be of the same tint. Quires of less than four or more than four sheets were sometimes used. The writing was done after the quires were made, and the completed quires were then lettered consecutively (the letters appearing at the top or bottom of the first page) to insure their being put together in

the proper order. Such completed and lettered quires were known as *signatures*. The signatures were finally stitched or glued together, and a cover of the same material was placed outside. In later times manuscript books of parchment were bound in wooden covers over which leather had been stretched, much after the style of our modern leather-bound books.

Parchment was thin and light, and was written upon on both sides, so that a single codex could contain as much as several rolls or volumina, and still be of more convenient size for handling. The greater durability of the material and the greater convenience of the form made the codex infinitely superior to the papyrus roll, yet parchment was slow in displacing the older material. In classical times the volumen of papyrus was still the accepted form for all books. It was not until the second century A. D. that the codex began to come into general use. Christian writers made use of it sooner than their pagan contemporaries and Bibles, theological treatises, and lives of holy men were among the first books in the new form. From the third century onward parchment was the

favorite, although not until the seventh century was papyrus driven from the field.

20. PUNCTUATION AND PARAGRAPHING. While as early as 260 B. C. a system of punctuation was in use, it did not become general, and in the earlier manuscripts there is usually no punctuation and no spacing between the words. Separation of the words from each other began about the seventh century A. D., but it was four hundred years before systematic spacing became the rule. Paragraphing began in the fourth century A. D. At first the end of the paragraph was indicated by a horizontal line. Later a space was left, and still later the practice of enlarging the initial letter of the new paragraph made the horizontal stroke at the end of the preceding paragraph unnecessary. Our modern system of punctuation and of indenting for each new paragraph has come about by a gradual development.

21. TITLE AND COLOPHON. In the volumen, or papyrus roll, it was usual to write the title at the end of the manuscript. The same custom was followed in the codex, or parchment manuscript. Later there came a tendency to write the title at the beginning, but the title page as a separate and

distinct thing did not come until after the invention of printing, as we shall see later on. The colophon was a short paragraph at the end of the manuscript, in which the scribe gave his name, the date when he finished copying the book, with the name of the place and other information sometimes added. It was not widely used and is more common in the early printed books than in manuscripts. Of course, in the printed volume the printer's name took the place of that of the copyist in the manuscript.

22. BOOK-MAKING IN THE MONASTERIES. During the dark period which followed the break-up of the Roman Empire, what intellectual and literary activity survived was preserved through the influence of the church. The work of multiplying and distributing copies of such books as met with the approval of the ecclesiastical authorities was carried on almost wholly by the monks in their various establishments.

Cassiodorus (died 575), abbot of the monastery at Vivaria, was the first to introduce the transcribing of manuscripts as a part of the prescribed daily routine of monastic life. His example was followed by Saint Benedict (died 543), the founder of the order known

as the Benedictines, and wherever a monastery of this order was established, the work of multiplying manuscripts was carried on. Although this work of copying as a part of the regular routine originated with Cassiodorus, such work had been done voluntarily by monks in other monasteries at an earlier date, and the oldest existing manuscript from the hand of a European monk dates from the year 517.

The work of the monks as scribes and illuminators surpassed in beauty the best manuscripts produced by the commercial scribes of the classical period. This is easily understood when we consider that the monk performed his labor as a religious duty, not as a mere clerical routine. To the production of beautiful books the monks brought a painstaking devotion which took no thought of the time involved and often made the book a real work of art. In the nunneries of the Benedictine order, too, the copying of manuscripts was one of the chief occupations of the nuns, and the skill and dexterity of the sisters produced books even more beautiful than those which were written in the monasteries.

In the earlier centuries of this period the

actual transcribing was usually done in a special room arranged for the purpose and known as the *scriptorium.* The copyist was known as a *scriptor,* or *librarius.* Sometimes the monks worked alone in their individual cells. In either case, each monk copied from an original, independently of other workers. In later times the practice of the Roman publishers was followed, and a number of monks copied while one of their number read aloud from the original. Sometimes a book was divided into portions, one of which was given to each monk, and in this way the work was completed more quickly than when one monk copied the entire book. The closet or chest in which the books were kept was called the *armarium,* and the monk in charge was known as the *armarius.* His duties must have been largely those of a librarian.

The monks made copies of books not only for the library of their own monastery, but also for the purpose of exchange with other institutions as a means of increasing their own collection. Books were also made for the library of some wealthy benefactor of their order. Outside of Italy the monks devoted themselves largely to the preparation

of religious works, such as portions of the Bible, books of devotion, or of the ritual of the church. In Italy, where the interest in the old classical literature never entirely died out, attention was given to the preservation of the works of the classical Latin authors.

Not only were the monks the scribes who preserved and distributed the religious and classical works, but they were also the historians of their own times, and the chronicles, or annals, written by them form some of our most important sources for reconstructing the life and institutions of the time in which they lived. As an example of the work done by the monkish chronicle writer mention may be made of the Venerable Bede (died 735) and his Ecclesiastical History of Britain.

Probably the total output of the monasteries was much larger than the popular estimate. Some of the monks and nuns have left records of the books copied by them, and these lists show how industrious they were. It is recorded that one nun transcribed during her life a total of forty-six volumes, some of which were large works. It is told of a monk named Jacob of Breslau

that he copied so many books that it would have required six pack horses to carry them. With hundreds of monks and nuns devoting a good share of their time to the work of transcribing books as a part of their religious duty during a period of six or seven hundred years, we can readily see that the total output must have been very considerable.

23. RISE OF THE UNIVERSITIES. The revival of the book-trade upon a commercial basis came first in Italy. There, in spite of centuries of confusion and conflict, the germs of intellectual life were still preserved, and there the first stirrings of renewed activity came.

With the beginning of the thirteenth century the preservation and development of intellectual life passed from the monasteries to the newly founded universities. This meant that gradually the direction of education and literature passed from the hands of the ecclesiastics. Not that the church no longer exerted a strong influence on education, (for she did); but the exclusive control was no longer hers, and in time complete emancipation came.

The universities differed from the ecclesi-

astical schools in being open to all, instead of being limited to those whose business in life was to be the service of the church. Some of these universities were the gradual outgrowth of the schools which had been founded in connection with the cathedrals. Such were the Universities of Paris, Oxford, and Cambridge. Others were formally established as universities at their beginning. The earliest example of this latter class is the University of Prague, established in 1348. The University of Bologna claims to be the oldest of the universities having a religious origin, and celebrated its one thousandth anniversary in 1890.

24. BOOK-TRADE OF THE UNIVERSITIES. The organized trade in books in connection with the universities seems to date from the thirteenth century, for not until then do we find regulations laid down for its conduct. At first the booksellers at the universities, who were known as *stationarii*, were in reality proprietors of what might be called circulating libraries, for they were supposed to keep in stock a complete supply of the works used in the various departments, and these manuscript works they rented to students. The latter were not per-

mitted to purchase the books, and it was a misdemeanor to carry them out of the town in which the university was located. The story goes that one student, desiring to possess copies of the works which he had studied at the university, smuggled them out of the city hidden in a load of hay and so escaped detection.

It was not the custom to rent entire works, but the portions prescribed for study were prepared in pamphlets of convenient size, the size of the pamphlet and the rate at which it was rented being fixed by the university authorities. This custom was due, doubtless, to the high cost of materials and the labor of copying complete works. At first the number of stationarii at each university was limited, and no one else was permitted to deal in books for the use of students.

With the growth of the universities and the great increase in the number of students, the practice of renting gradually gave place to the actual sale of books to the students. The dealers came to be called *librarii* (the modern French word *librairie,* a book-shop, preserves this meaning of the word). But these librarii were more like librarians than

booksellers, for they were willing to rent their books if the student did not have the money to buy, and they also allowed persons to consult their stock without removing the books from the shop. Whether or not a fee was charged for such use, we are not told. The making of copies of books for sale as a part of the business developed gradually. Students who rented books were obliged to make a deposit, either of money or of some article of value, to cover the dealer's loss in case the books were not returned. In Paris students sometimes rented manuscripts in order to make their own copies for personal use, and this was probably done more or less in other cities.

It is evident that, although the book-trade had thrown off, in a large measure at least, the supervision of the ecclesiastics, it was still bound hand and foot by the university regulations, and in some cities the booksellers, under the rules of the university, formed a guild or "closed shop" union which was far from permitting a free and unrestricted growth along commercial lines, although it had undoubted advantages for those who were "in the ring". The view held by the authorities seems to have been that the

trade existed merely for the purpose of supplying copies of correct and authentic texts for the use of those connected with the schools. As yet there was little demand for books by the general public. Among the special privileges granted to members of the guild in some cities was freedom from the payment of taxes.

The purchase of a manuscript book during the fourteenth century was an adventure not lightly to be undertaken. It was hedged about with as much red tape as is now required in the transfer of real estate. Buyer and seller were obliged to give sureties, and the bargain was completed in the presence of witnesses and certified under seal.

In view of all the restrictions placed upon the book-trade, it is surprising that the development was as great as it was. In England there were always fewer restrictions than on the Continent. It is to be noted that from the term employed for the university book-sellers, stationarii, has come our English word *stationer* as applied to dealers in books and writing materials.

25. COMMERCIAL BOOKSELLING. Late in the fifteenth century there seems to have grown up in certain parts of Europe a trade

in books outside of the university bookshops. We read that dealers in old clothes, perfumers, grocers, and dry-goods merchants were among those who sometimes carried books in stock among their other wares. In France the restrictions upon the trade prevailed longer than in other parts of Europe, and were still in force even after the invention of printing.

During the manuscript period of the trade, Paris, Florence, and Venice were the leading centers of the business. The religious order known as the Brothers of the Common Life in Germany and the Netherlands played an important part in the production of books and their distribution among the common people. Their books, which were largely works of devotion and texts for school use, were in the vernacular and did much to extend an interest in literature among the lower classes.

In Germany and the Netherlands, too, there grew up a class of commercial scribes who did a business in books, largely in the native tongue. These books were small, usually written on paper, and sold at a small price. Thus as we approach the date of the invention of printing we find that the book-

trade, except in France, was gradually outgrowing the university restrictions and becoming more truly commercial in character.

The stalls of the booksellers were often to be found about the entrances to the cathedrals in the larger towns, while in Paris and other large cities certain streets were especially the abode of the booksellers. Itinerant venders of books also went about the country, visiting especially the numerous fairs and markets held throughout Europe at this period.

As to the prices at which manuscript books were sold during the middle ages, it is difficult to give exact information. The price varied greatly with the character of the book, the period, and the locality, and special causes of which we are ignorant doubtless influenced individual cases. Putnam tells us that in 1057 a nun exchanged a copy of the Bible, which she had written with her own hand, for a farm. The size and character of the farm are not specified, and we have no way of knowing its value. In 1427 a copy of Livy was sold for 120 gulden in gold. How much a modern equivalent of this sum would be it is hard to say. In 1345 a volume of Commentaries sold for

the equivalent of about $170 in our money. A book of homilies was sold in 1460 for two hundred sheep, five measures of wheat, and five measures of barley. On the other hand, the text-books and broadsides prepared for use among the poorer classes sold at small prices,—at about the same figure that was charged for a fowl, or even less.

26. MEDIEVAL LIBRARIES. Through the early years of the middle ages what few libraries existed in Europe were in the hands of private individuals. From the time of Cassiodorus, as already mentioned, the care of books was in the hands of the monks. In the sixth and seventh centuries the British Isles were the centre of learning, but the inroads of the Northmen from the ninth century onward destroyed learning and libraries in England and Ireland.

The monasteries of the Benedictine order possessed the most notable libraries of the middle ages. There seem to have been two classes of books in the libraries of the monasteries: books which the monks were allowed to take to their cells for private use, and books which were reserved for reference in the library. These latter volumes were chained to the reading-desks. The monas-

tery libraries loaned their books to outsiders under certain restrictions, but can in no sense be considered as open to the public in general.

In comparison with the libraries of the ancient world, these monastery collections were not large. That at St. Germain de Pres, at the time of the French Revolution, contained 7,000 manuscripts and 5,000 printed books. At a much earlier period (thirteenth century) the library of the monastery of Christ Church, at Canterbury, England, contained 698 volumes with 3,000 titles. The monastery at Fulda, Germany, contained 774 volumes. These may be taken as fairly representative of the libraries of this period.

In the early days the books were kept in closets adjoining the scriptorium, but as the libraries grew in size the monasteries often erected a separate building, or wing, to house their collection. The library at Clairvaux, in 1517, was a room 189 feet long and 17 wide. It is described as "vaulted, well lighted, and stocked with a large number of manuscripts, fastened by chains to desks."

In the library of the Bishop of Seville (seventh century) the following pertinent notice in Latin was painted on the front of

the cases: "There is nothing for you to do here, chatterbox, you had better go outside."

In the fifteenth century libraries were fitted with reading-desks provided with shelves above, to which the books were chained. One end of the chain was fastened to the book, the other end ran on a bar fixed to the front of the desk. This made it possible to use the volume conveniently, although it could not be removed from the desk.

With the Renaissance the interest in books revived outside the monasteries, as we have seen. The early university libraries were modelled after those already existing in the monasteries. The first of the medieval public libraries was founded in 1436 at Florence by Niccolo Niccoli, but the number of such libraries was small prior to the modern period.

V

THE INVENTION OF PRINTING

27. MANUFACTURE AND USE OF PAPER. The origin and early history of paper-making is shrouded in uncertainty. Probably the manufacture and use of this material originated in China. It is certain that it was used there centuries before it appeared in the western world. Some authorities claim that paper was made in China as early as the second century before Christ. It was first used by western people in the eighth century A. D.,—nearly one thousand years later. It is said that the Arabs of Samarkand learned the secret of its manufacture from the Chinese, and from them its use spread throughout the Arab world. Its wide use by the Arabs at an early period is indicated by the existence of many Arabic manuscripts on paper, dating from the ninth century A. D. The Arabs probably used flax in its manufacture. The Chinese used cotton, and to this is due the peculiar character of Chinese paper.

Paper was probably introduced in Greece by the Arabs, and thence spread to other European countries, although its use in Greece was not extensive until the thirteenth century. Paper manufacturing was first carried on in Europe by the Moors in Spain as early as the twelfth century. The oldest recorded European document on paper is a deed of King Robert of Sicily of the year 1102. Mills were set up in Italy, at Fabriana, in 1276. Watermarks were first used in 1293. The manufacture of the new material spread throughout Europe and in the second half of the fourteenth century its use for literary purposes was well established. In the fifteenth century paper largely superceded vellum, or parchment. In this period we frequently find the outer sheet of the quire of vellum, the remaining sheets of paper. The vellum gave added strength in sewing the quires together. The growing use of paper was important in preparing the way for the printing-press. Without such a material, which lends itself readily to manipulation on the press, and which can be manufactured in large quantities at small cost, the spread of printing might have been much slower than was the case.

28. THE INVENTION OF PRINTING. In the consideration of the invention of printing, we must remember that the word printing is used with various meanings. In the widest sense, printing means the impressing of any image on any substance; in the sense with which we are now concerned, it means the art of multiplying books, pamphlets, newspapers, etc., by means of single types which can be used over and over in varying combinations. The art of impressing or stamping words, signs, and pictures seems to have been well known from the very earliest times. Handles of Greek vases and the bases of Roman lamps were often stamped with the maker's name. The impress of the signet-ring was used on seals and documents. Cicero even suggested the possibility of combining single letters into sentences. But the demand for the invention was not sufficient to bring about its practical application.

The first use of printing in the manufacture of books was the work of the Chinese. In 593 A. D. (or according to other authorities, in 175 A. D.) the most important of the Chinese classics were printed from wooden blocks. Two pages were printed from a single block on one side of the sheet, and it

was then folded with the printing outside. This method is still followed in China, although movable types of clay were invented by a Chinese named Picheng in the eleventh century. The vast number of Chinese characters makes the use of movable types cumbersome, and hence the persistence of block-printing in China.

29. BLOCK-BOOKS. There are no records to show that the early printers of Europe knew of the Chinese invention. The weight of evidence seems to indicate that there was an independent development of the art in Europe. As was the case in China, the first attempts were in the way of block-printing. Probably the beginning was made by the reproduction of pictures, usually of a religious nature, from engraved wood blocks. Sometimes a line or two of reading-matter was included in the block. The next step was the making of what are known as "block-books". A block-book has been defined as follows: "A book printed wholly from carved blocks of wood. Such volumes usually consist of pictorial matter only; if any text is added in illustration, it likewise is carved upon the wood block, and not put together with movable types. The whole of any one

page, sometimes the whole of two pages, is printed from a single block of wood. The manner in which the printing was done is peculiar. The block was first thoroughly wetted with a thin watery ink, then a damp sheet of paper was laid upon it, and the back of the paper was carefully rubbed with some kind of dabber or burnisher, till an impression from the ridges of the carved block had been transferred to the paper. Of course in this fashion a sheet could be printed only on one side."

Since the sheets could be printed only on one side by this process, it followed that when the sheets were bound into a volume every other page was blank, unless, as occasionally happened, two sheets were pasted back to back. When this was done, the completed volume would present the ordinary succession of printed pages. In some cases the text below the picture was written in by hand. This may represent a transition stage. Block-printing was practiced on cloth as early as the twelfth century, and on paper as early as the second half of the fourteenth century.

30. GUTENBERG VS. KOSTER. Two men are put forward by two contending sets of

scholars as claimants for the honor of inventing the art of printing from movable types. It would take too long here to give the arguments advanced on both sides, and we should be little wiser in regard to the facts of the case. The more generally accepted theory is that the art originated with one John Gutenberg, of Mainz, Germany, about 1450, although the adherents of Gutenberg admit that there is no proof that he ever printed any book. The other claimant of the honor is Lourens Janszoon Koster, or Coster, of Haarlem in Holland, who is said to have printed books from movable types between 1440 and 1446.

George Haven Putnam, in his work on *Books and their makers in the Middle Ages,* points out that "if, as is probably the case, the first book printed from movable types is to be credited to Koster, it remains none the less the case that Gutenberg's process must have been worked out for itself, and that the German possessed, what the Hollander seems to have lacked, not merely the persistence and the practical understanding required to produce a single book, but the power to overcome the obstacles and to instruct others, and was thus able to estab-

lish the new art on a lasting foundation." And there we will leave this vexed question for the present.

Those who support Koster's claims accept as the first European book printed from movable types the *Speculum Humanae Salvationis* (*Mirror of Our Salvation*), to which various conflicting dates have been assigned. This work had for many years been popular among the Benedictine monks, and many manuscript copies of it still exist. Koster printed three editions of the book, the earliest being a block-book. The upper half of each page contained two cuts, and the lower half was filled with text. In the first edition the text is cut on the same block with the pictures; in the third edition (which, by the way, is in Dutch, whereas the earlier editions were in Latin) the lower half of the page is printed from metal type. Two impressions were necessary: the pictures were printed first, and then the text was added by a second impression.

The partisans of Gutenberg claim that the earliest specimen of printing from movable types now in existence is a single sheet bearing an "Indulgence" of Pope Nicholas V, printed in Mainz in 1454. This, they say,

was printed by Gutenberg, or at least from type which he had made.

The first books printed at Mainz were two editions of the Latin version of the Bible which is known as the Vulgate. These are called, from the number of lines on a page, the forty-two line Bible and the thirty-six line Bible. The forty-two line Bible is also known as the Mazarine Bible, from the copy in the library of Cardinal Mazarin, which was the first to attract the notice of those interested in the development of printing; and the thirty-six line Bible is sometimes called Pfister's Bible, or the Bamberg Bible, because the type from which it was printed came afterwards into the possession of Albrecht Pfister, a printer of Bamberg. Both of these Bibles were probably printed not far from the year 1454.

VI

FOUR HUNDRED YEARS OF PRINTING

31. EARLY PRINTERS. From Mainz the newly discovered art of printing spread to Strasburg, where the first Bible to be printed in the German language was issued in 1466; then to Bamberg, Cologne, Augsburg, Nuremberg, and the other cities of Germany.

The first press outside of Germany was one set up in the Benedictine monastery at Subiaco, Italy, by two German printers, and the first books printed in Italy were issued from this press in 1465. For some reason the two Germans left Subiaco in 1467 and took their press to Rome, where another printer from Germany began work in the same year. Venice was the next Italian city to adopt the new method of producing books, in 1469. The other cities of Italy followed the example of Rome and Venice, and by the year 1500 more than seventy presses had been established in as many cities and towns.

Venice holds the first place among European cities in the early history of print-

ing because of both the number of its printers and the importance of its output. Its most famous printer was Aldus Manutius, who began to publish books in 1494. He was an able scholar as well as an excellent printer, and his aim was to bring out in the new style the most famous works of the classical authors. He introduced the style of type now known as *italic;* he was the first to use a complete and perfect font of Greek type (though not the first to print books in Greek); and, perhaps the most important of all, he was the first printer to depart from the huge folio and quarto volumes which had been the rule before his time. He issued many volumes in the handy size called "octavo", and the innovation led to a practical revolution in publishing methods, for the smaller volumes were not only more convenient to use but they were also less expensive for the purchaser.

Printing was not introduced into France until 1470, when a press was established in Paris. As had been the case in Italy, so here the first printers were Germans and the earliest books were in Latin. It was not until 1477 that a volume was issued in the French language. Lyons was the second

French city to introduce printing, and by the end of the century presses were at work in many cities and towns throughout France.

Before the year 1500 the printing-press had won its way into practically every country of Europe. It would be tedious and needless to follow the spread of the new industry from city to city, but mention must be made of its introduction into England.

32. WILLIAM CAXTON. The first English printer was not, as had been the case in Italy and France, a foreigner, but was a native of England, William Caxton by name. Originally a merchant, he had entered the service of Margaret, Duchess of Burgundy, the sister of King Edward VI of England. While in her service on the Continent he mastered the art of printing, and the first books of which he was the publisher are said to have been printed abroad. However that may be, in 1477 he returned to England and established himself as a printer at Westminster. In November of the same year he brought out the first book printed in England. Here again we notice a difference from the beginnings of the trade on the Continent, for Caxton's first book was in English. It was called *Dictes or Sayings*

of Philosophers. Possibly Caxton's early training as a merchant may have had something to do with the fact that from the start he established his business on a paying basis, whereas many of the early printers on the Continent had been subsidized by wealthy or noble patrons. The larger part of Caxton's books were in English, and were intended for popular reading rather than for the use of scholars. Many of them were translations made by Caxton himself from French originals. Among the largest books to come from Caxton's press were Chaucer's *Canterbury Tales,* Aesop's *Fables, The Golden Legend,* and Malory's *Morte d'Arthur.* After Caxton's death his business passed into the hands of his assistant, Wynkyn de Worde.

33. CHARACTER OF THE EARLY BOOKS. It is to be noted that the early types were in imitation of the handwriting of the country where the printer resided, or of some particular manuscript which he wished to reproduce. This is true of the Gothic, of the Roman, and even of the Italic introduced by Aldus of Venice. The latter style of type is said to have been modelled on the handwriting of Petrarch. Possibly the uneven-

ness of the lines in the early specimens of book-making is due to this spirit of imitation, rather than to any lack of skill on the part of the printer. In early books the large initials at the beginning of important divisions of the text were left blank to be filled in by hand. Illuminated borders were also added by hand, so that many of the earliest printed books closely resemble illuminated manuscripts of the same period. In a large number of cases these first books were printed page by page, so that a large stock of types was not required. Progress was slow and improvements were few during the earlier years of the art.

34. ADVANCE IN THE ART. The earliest presses were crude and clumsy affairs of wood, worked by hand. For more than three hundred years few changes of importance were made. Late in the eighteenth century the Earl of Stanhope invented the first iron press, which marked a most important step forward. With the application of steam to other machinery it was natural that power presses should be the next step. The invention was a German one, but was first used by the London *Times* in 1814. The capacity of this first power press was 1,100

copies printed on one side in an hour. It required two hours, therefore, for printing that number of copies on both sides.

From that time until the present day the development of the industry has been constant and rapid. Improved presses, typesetting machines, color presses, and other inventions have followed each other in rapid succession. A press manufactured by R. H. Hoe and Company in 1908 for a London publisher is said to be the largest and most complicated press made up to the present time. It is capable of turning out in one hour 200,000 copies of an eight-page paper, printed, trimmed, and folded for mailing.

35. PRINTING IN AMERICA. Printing was introduced into America by the Spanish, and the first press was established in the city of Mexico in 1544. Not until nearly a century later was there a printing-press in what is now the United States. In 1638 or 1639 a press was set up in Cambridge, Mass., in connection with the college which had just been opened there. Boston did not have a printing-office until 1676. One of the earliest American printers deserving mention was William Bradford, who settled in Philadelphia and "introduced the 'art and

mystery' of printing into the Middle Colonies" in 1685. Interesting as it might be to trace the growth of printing in America, we have not space for it here.

36. CELEBRATED PRESSES. Among the printers of the last four hundred years some have become famous for the excellence of their work, and books from their presses are in great demand among collectors. Mention has already been made of Aldus and the Aldine Press of Venice. Books from this press take high rank and are much sought after. Another famous press was that of the Elzevirs. This was established at Leyden in 1592 by Louis Elzevir, and the business was continued by members of his family until 1713. The Elzevirs introduced the small volumes corresponding nearly to our 16mo size, which speedily became very popular with other printers.

Other famous printers of Europe (and mention can be made of but a few) were the Estiennes, of France; Plantin, of Antwerp; Caxton, already mentioned; John Baskerville, of England; the brothers Foulis, of Glasgow, who made and lost a fortune in the business; the Strawberry Hill Press, of Twickenham. Among the more modern

presses which have been noted for the excellence of their work are the Chiswick Press, founded in 1811 by Charles Whittingham; and the celebrated Kelmscott Press, established by the poet, William Morris, in 1891 and closed shortly after his death in 1896. For this press Morris designed his famous "golden type", and the books issued from the Kelmscott Press are among the most splendid ever printed. The crowning work of this press was the "Kelmscott Chaucer", issued just before Morris's death.

America has had famous presses, and their work is comparable with the best of the European printers. Among the American presses mention may be made of the Riverside Press, Cambridge; the De Vinne Press, New York; the Merrymount Press, Boston; and the Mosher Press, Portland.

37. TRADE IN PRINTED BOOKS. With the invention of printing we reach the final stage in our study of publishing and bookselling,—what we may for convenience call the modern period, to distinguish it from the earlier manuscript periods, although in strict accuracy early printing and publishing belong not to the modern era but to the close of the medieval epoch.

As to the processes of manufacture no more need be said than has already been given in our consideration of the invention of printing. We shall consider rather the business end of the book-trade. It is to be remembered that the early printers were, as a rule, men of learning as well as craftsmen and men of business. They edited the texts which they issued, personally supervised the actual work of printing, and conducted the sale of the completed books. Aldus of Venice has already been mentioned as an example of the printer who was an accomplished scholar. Thus we find that at the beginning the functions of editor, printer, publisher, and bookseller were performed by one person. As time passed these duties tended to fall to different persons with the growth of the business. Printers began to employ scholars to edit their books; men who were not printers became publishers, having their books printed for them; and men who were neither printers nor publishers set up as dealers in printed books. Of course, even to the present day the combination of printer-publisher-bookseller still persists, but this is the exception and not the rule.

38. PRINTERS' GUILDS. At the time printing began the various crafts or trades were organized into guilds, each aiming to monopolize, within its own field, its special craft or trade. We have seen that the dealers of the manuscript period had organizations of a similar nature. It was but natural, therefore, that the same tendency should manifest itself in the printing craft, and the printers in each city or petty state soon came to unite on a similar basis. The earliest such guild of which we have record is that of Venice, founded in 1548-49. This organization continued to exist down to the early years of the nineteenth century. The English organization known as the Company of Stationers was given a charter in 1556. These guilds and kindred organizations were not merely trade-unions but also had the purpose, in many cases, of aiding the church and the state in the supervision of the books published. They usually claimed the right to forbid any person not a member to publish or sell books without their permission. In the case of the Company of Stationers the organization actually enforced its monopoly for a considerable period. But sooner or later the attempt to control the output of the

printing-press was brought to an end and any one could engage in the trade unhindered.

39. COPYRIGHT. The modern system of copyright protection, by which the author and publisher are secured in their rights, is a gradual outgrowth of the special rights and privileges granted in earlier times by the state to individual publishers, or to guilds and companies. Originally the author was not considered, the publisher being the protected party. The earliest protection of this kind was granted in 1486 by Venice. The English copyright grew out of the monopoly granted to the Company of Stationers. Books which were "registered" on the records of this company were secured to the original publishers against infringement. At first this right secured by registry was not for a limited term but in perpetuity. With the passage of the first English copyright law in 1709, however, this perpetual proprietorship was changed to one limited to a specified term of years.

It is interesting to note that one provision of this first law gave the buyer who thought the price charged for any book was too great the right to make complaint to the proper

authorities and, if the complaint was found to be justified, the price of the book was to be reduced. Unfortunately this section of the law was a dead letter from the beginning.

40. CENSORSHIP. A more serious menace to the book-trade than the monopolies which the guilds attempted to establish was the censorship which both church and state set up. The church of Rome cast a jealous eye on the activities of the printing-press from an early period, and in many parts of Europe succeeded in putting an effective muzzle on the freedom of the press. Books which were in any way inimical to the teachings of the church were prohibited, suppressed, confiscated, and destroyed. Rulers, desirous of maintaining their rights and privileges, also established censorship over works of a political character and suppressed books of which they disapproved. The censorships were most oppressive and most effective in Italy, while England always enjoyed a greater freedom than any other part of Europe. But even in England there were times when even the possession of an unlicensed book was a punishable offence. The Catholic church still maintains its attitude of

repression and publishes a long list of works which all members of that communion are forbidden under dire penalties to read.

41. PRESENT CONDITIONS. The present state of the book-trade calls for little comment. Although guilds, censors, and monopolies are, happily, nearly extinct, there are still hindrances to the perfect freedom of the trade. The publishers' associations of both the United States and England still attempt to regulate the prices at which their books may be sold. The latest form of this restriction is the "net" price, i. e., a price fixed by the publisher at which the book must always be retailed, the publishers agreeing not to supply copies of any publications to dealers who sell "net" books for less than the fixed price.

A detail of German publishing methods, which might well be adopted here, is the practice of sending books "on sale", even to dealers in small towns, with the privilege of returning unsold copies. By this method the retail dealers of country towns are able to carry in stock a much greater variety of recent books than is the case with us. On the Continent, too, books are issued in paper

covers and the purchaser has them bound to suit his taste and his purse.

42. MODERN LIBRARIES. Prior to the Revolution there were in the American Colonies few libraries open to the use of the public. Such as did exist were either those connected with the few institutions of learning, or "were the outgrowth of associations of gentlemen having tastes and interests in common". These association libraries were, of course, proprietary or subscription libraries, open to members only, and were by no means public libraries.

Probably the oldest subscription library in the United States is that known as the Philadelphia Library Company. This company was formed in 1732 by the efforts of Benjamin Franklin and some of his associates in Philadelphia. About fifty persons took "shares" in the library, paying forty shillings each and pledging ten shillings a year for the maintenance of the library. Only members were allowed to draw books, but "any civil gentleman" was permitted to "peruse the books of the library in the library room". The company was incorporated in 1742, and a building was erected in 1790. This library now numbers nearly a quarter

of a million volumes. It is free for reference use by the public, but its books still circulate only among subscribing members.

The New York Society Library, which was chartered in 1754, claims to be the continuation of a City Library established about 1700, but the earlier library had long been only a name when the new company took over its books, so that New York's claim to priority over Philadelphia does not seem to be well founded. The New York Society Library, after more than a century and a half, numbers over one hundred thousand volumes.

Similar subscription libraries were founded at Charleston, S. C., in 1748; at Providence, R. I., in 1753; at Salem, Mass., in 1760; at Leominster, Mass., in 1763; at Portland, Me., in 1765; and at Hingham, Mass., in 1773. An endowed subscription library was established at Newport, R. I., in 1747 by Abraham Redwood, and a building was erected by the town for its use in 1750.

The Harvard College library dates from the founding of the college in 1636, but the collection was burned in 1764, and re-established in that year. It probably contained ten thousand volumes at the time of the Rev-

olution. There was a library connected with the College of William and Mary, established in 1692, but it was of no importance at the outbreak of the Revolution. The library of Yale College was founded even before the college, and numbered four thousand volumes in 1765. Other college libraries in existence at the time of the Declaration of Independence were those of King's College (Columbia), University of Pennsylvania, College of New Jersey (Princeton), Rhode Island College (Brown University), and Dartmouth College.

The free public (i. e., town or city) library did not come until well into the nineteenth century. A subscription library at Castine, Me., was taken over by the town in 1827, and has been supported by the town since that year. It is quite probable that this is the first public library in the United States, although the Bingham Library at Salisbury, Conn., founded in 1803 by private enterprise, received aid from the town at an early date. Peterborough, N. H., voted in 1833 to establish a free library and appropriated the sum of $66.84 to buy books. In 1846 Orange, Mass., voted $100 to establish a town library, which has been maintained ever since.

Boston was the first large city to open a free public library, in 1854, under a special act of the legislature passed in 1848. The first state law permitting towns to lay a tax for the support of a library was passed by Massachusetts in 1851. Other states followed, and the growth of the movement has been remarkably rapid. Today there are probably ten thousand public libraries in the United States, counting only those containing at least one thousand volumes.

The Library of Congress at Washington, containing more than two million volumes, is the largest American library and the most active government library in the world. Many of our cities have notable libraries, the largest being those of New York, Boston, and Brooklyn. Harvard has more than one million volumes in its library, and is now erecting a magnificent new building. It stands at the head of the colleges and universities of the country in the size and value of its collection.

In England the public library is not so common as in the United States, the total number not reaching one thousand. There are numerous endowed libraries not supported by public funds, and the university libra-

ries at Oxford, Cambridge, and Edinburgh, dating from the middle ages, are notable collections of books and manuscripts. The largest English library and probably the most famous library in the world is that of the British Museum. This was founded in 1753 and opened in 1759. It contains over two million printed books, fifty-six thousand manuscripts, and pamphlets and minor items sufficient to bring the total above five million pieces. Few libraries in the United States have so large a collection of American books as does the British Museum.

Other foreign libraries of note are:

Bibliothèque Nationale, Paris, 3,000,000
Royal Library, Berlin, 1,300,000
Royal Library, Munich, 1,200,000
Imperial Library, Vienna, 1,000,000
Imperial Library, St. Petersburg, 1,800,000
Vatican Library, Rome, especially rich in valuable manuscripts and early printed books.

VII

THE MODERN BOOK

43. SIGNATURES. We have seen, in our study of the parchment manuscript, that the scribe placed on the first page of each quire a letter or figure called the signature, to guide in arranging and binding the completed manuscript. The same device is still used in many printed books. It appears at the bottom of the first page of each printed sheet and, when the sheet has been folded ready for binding, shows the binder where that particular section should be placed in the book. The term signature is given both to the distinguishing letter and to the folded section on which it appears.

44. BINDING. The various signatures are sewed together in the proper order, either by hand or by machinery. After the sewing has been completed a strip of thin cloth is pasted across the back, projecting on either side. The cover has been prepared separately, and the book is now inserted within it and fastened by means of the pro-

jecting edges of the cloth strip. In the case of more expensive books, the signatures are sewed by hand upon two or more tapes stretched across the back, and when the book is inserted in its cover these tapes are laced or glued to the boards.

45. HOW TO OPEN A BOOK. In opening a new book, care should be taken not to use force enough to crack the glue which covers the back, or to start the threads which hold the signatures together. The proper way to open a new book is to place the back upon a table, holding the leaves between the fingers. Gently lower first one cover and then the other to the table, still supporting the leaves with the fingers. Now press a half dozen leaves at the front of the book down upon the cover; then do the same at the back of the book. Continue this process, alternately pressing down leaves at the front and at the back, until all have been pressed down. Repeat two or three times, and you will find it possible to open the book anywhere without danger of breaking the back.

46. PARTS OF THE BOOK. Certain parts of a book are of importance because they furnish information as to the character of the volume. These are (1) the title page;

(2) the preface; (3) the table of contents; and (4) the index.

(1) From the title page we learn the author's name. This is of importance, because if the writer is a person of established reputation we may be sure that the book is worthy of our consideration. On this page, too, we find the name of the publisher and the date of publication. The name of a reputable publishing firm is a guarantee of the trustworthiness of the volume. The date upon the title page shows when this particular copy of the book was issued, and may indicate how recent is the information contained in it. But, as a book is sometimes reprinted several times without revision, a safer guide is to be found in the date of copyright, which is usually printed on the back of the title page.

(2) In the preface the author often tells why he has written the book, and for what particular class of readers it is intended. This enables us to judge whether it is likely to meet our needs or not.

(3) The table of contents is a list of the subjects treated, arranged in the order in which they are taken up in the book. It often serves as a summary by which we may

gain some idea of the book without having to take the time to read it through.

(4) The index is an alphabetical list of all the topics discussed in the book, with the numbers of the pages where the discussions are to be found. It should always be used, in preference to the table of contents, in looking up a specific topic.

PART II

The Use of Books

VIII

THE APPROACH TO THE LIBRARY

47. THE CARD CATALOGUE. The proper method of approach to any library is by means of the card catalogue. The majority of students, however, disregard this entrance door, because its use requires some intelligence and effort on their part, and go directly to the desk with their queries. They do not seem to realize that not even the librarian, after long years of acquaintance, can hope to remember the exact location on the shelves of each of the fifty thousand volumes in the library. With as much reason, almost, might they expect the mayor of a city of fifty thousand inhabitants to recall at once the street number of each citizen. The card catalogue was devised to make unnecessary such an attempt at the impossible, and to enable users of the library to discover whether the books they want are on the shelves, thus saving time for both themselves and the librarian. Armed with the information secured from the card catalogue, they

can make their wants known at the desk in a way to bring the quickest results.

48. THREE CLASSES OF CARDS. To be efficient, a card catalogue must answer three questions: Has the library the works of a given author? Has the library a book of a given title? Has the library any books on a given subject? This gives us three classes of cards,—author cards, title cards, and subject cards. Not every book requires all three of these, but most books demand at least two. It is obvious that every book, of which the author is known or can be ascertained, must have its author card. Similarly, every work of fiction must be provided with a title card. Many other volumes with striking titles, which are likely to be remembered, require the same provision. Not every book needs a subject card,—for example, works of fiction and volumes of poetry seldom call for entry under a subject.

There are some minor varieties of these three classes. For example, when a book treats of more than one subject, it will require a subject card for each subject treated. Editors, translators, and compilers are usually represented by cards. Cross-reference cards are inserted to point out where further

information on a subject is likely to be found. The use of these minor varieties varies with different libraries.

49. THE STANDARD CARD. Long experience in the use of card catalogues has led to the adoption of a card of standard size for the catalogue. This standard card is 7.5 centimeters by 12.5 centimeters (approximately 3 inches by 5 inches). There is also a standard form of entry which is followed, with slight modifications, by most libraries.

The items in this form are:

(1) author's name.
(2) title of the book.
(3) place of publication, with date.
(4) size of the book.
(5) particulars as to the illustrations, maps, etc., contained in the book.

Some libraries give fuller information than others, but the points enumerated are all that are absolutely essential to the ordinary user of the library. In addition to the items mentioned above, each card contains, usually in red ink in the left-hand margin near the top, the *call number*. This number shows the location of the book on the shelves and is to be used in asking for the book at the librarian's desk, as it enables him to locate

the volume at once. An explanation of how the call number is made up will be given when we consider the classification of books.

Cards for the catalogue may be written, typewritten, or printed. Many libraries now use, wherever possible, the printed cards of the Library of Congress, which are sold at a small price. Thus it is necessary to make cards only for books which are not included in the Library of Congress selection of printed cards.

The various cards—author, title, and subject—are filled in alphabetical order, like the entries in a dictionary or encyclopaedia, and the resulting catalogue is known as a dictionary catalogue. Some large libraries follow the custom of keeping their author and title cards in a separate file from their subject cards, thus making two catalogues instead of one.

IX

WHY BOOKS ARE CLASSIFIED

50. PURPOSE OF CLASSIFICATION. In one's private library—unless it be of considerable size—it makes very little difference how the volumes are arranged upon the shelves. The owner is so familiar with each one, and knows so well where it stands among its fellows, that classification and cataloguing are unnecessary. This may be true even of a small public or school library; but as soon as a collection reaches large proportions, some classification of the books becomes necessary for the convenience of those who use them.

Years of experience have shown that the most serviceable method for general use is that which will bring all the books on a given subject together on the shelves. This enables a person to see at a glance what books upon that subject are available for his use. Not only should the books on a subject stand together, but they should also stand in a definite relation to the other books in the

library. In order to accomplish these results, each book must bear a mark or number which will show its class, and a further mark to show where it will stand among the books in its class, distinguishing it from all others in that class.

Many systems of classification have been devised to fulfill these requirements, but only two will be considered here. These are the Dewey, or decimal, system, and the Cutter system, also known as the expansive system.

The Dewey system is the one in use in the Colby library. It has proved, perhaps, the most suitable for the small or medium-sized collection.

51. THE DEWEY SYSTEM. In the Dewey system the field of human knowledge is divided into nine main classes, with a tenth class for works too general to belong to any one of the other nine classes. These classes are numbered thus:

000 General works.
100 Philosophy
200 Religion
300 Sociology
400 Philology
500 Natural Science
600 Useful Arts

700 Fine Arts
800 Literature
900 History (including Biography and Travel)

Each of these classes is separated into nine divisions. For example, 500 Natural Science is divided:

510 Mathematics
520 Astronomy
530 Physics
540 Chemistry
560 Paleontology
570 Biology
580 Botany
590 Zoölogy

Each of these divisions is again separated into nine sections. Thus, 510 Mathematics is divided:

511 Arithmetic
512 Algebra
513 Geometry
514 Trigonometry
515 Descriptive Geometry
516 Analytic Geometry
517 Calculus
518 (Unassigned)
519 Probabilities

This process is repeated as often as is nec-

essary, a decimal point being used after the third figure when four figures or more are necessary. For example,

511.4 Fractions

Thus each subject has a definite number, and all books upon that subject bear that number and stand together upon the shelves. For example, all algebras will bear the number 512. Furthermore, the books will be arranged on the shelves in the simple numerical order of the classes. This brings related subjects near each other. Algebra, 512, will follow Arithmetic, 511, and precede Geometry, 513, and so on.

52. THE CUTTER SYSTEM. The same result is obtained in the Cutter system of classification by a different nomenclature. In this scheme there are twenty-six main classes, designated by the letters A to Z. Subdivisions are secured by the addition of a second letter (not a capital), and these may be again divided by means of a third letter. For example, H, Social Sciences, is divided:

Hb Statistics
Hc Economics
He Production
Hf Labor

Hi Slavery
Hj Transportation
Hk Commerce

This system is arranged in seven classifications of progressive elaborateness, from a brief arrangement suitable for a small library up to a very minute subdivision for the largest library. Thus, as the library grows, the classification can be *expanded* to suit its requirements, and hence the name, expansive system.

53. AUTHOR NUMBERS. It has already been stated that each book should bear, in addition to its class number, a number to distinguish it from all other books in its class. The Dewey classification, as also the Cutter system, provides the first; the second is secured by means of what are known as *Cutter Author Numbers.* These author numbers combine the initial of the author's name with one or more numerals so that when the volumes are arranged in the order of the author numbers they are also arranged alphabetically by their author's names. Thus, Tanner's Algebra (512 T15) stands before Wells's Algebra (512 W46), which in turn stands before Wentworth's Algebra (512 W48).

This combination of class number and author number makes the call number. For example,

512 T15 is the call number for Tanner's Algebra.

X

REFERENCE BOOKS

54. USE OF REFERENCE BOOKS. The ability to use works of reference intelligently should be a prerequisite for graduation at every college; but probably not fifty per cent of those who receive diplomas from the colleges of the United States possess such ability. To know where to look without loss of time for vital information on any subject is a mark of efficiency, whether it be in business or in professional life. That so many college students stumble through four years of so-called study without acquiring some acquaintance with the more important works of reference is a standing reproach upon our institutions of learning.

A reference book (if a definition must be given) is a book intended to be consulted for information on specific subjects, not to be read continuously. Reference books may be divided into two classes:

(1) Those which give direct information upon the desired subject.

(2) Those which give aid in locating that information.

The first class includes the encyclopaedias, dictionaries, year books, atlases, etc. The second class consists of catalogues, indexes, and bibliographies.

We are not concerned here with another class of reference material, usually known as "original sources". Such material, while used by advanced students for research work, is seldom required in undergraduate study. What is desired by the undergraduate is simply an authoritative statement of facts, and for this the ordinary works of reference are sufficient.

Expertness can come only with that familiarity which results from the habitual use of the books themselves, and for that reason no long and classified list of reference works will be printed here. Instead the student will be given practical work in the library, which will enable him to judge for himself as to the merits of the various books in the several classes and to become reasonably familiar with them.

Yet a few general suggestions may well be given at this time. Remember that in many cases several sources of information upon a

given topic may be available, and learn to choose the one where the treatment will be most likely to suit your needs. For example: You may wish information concerning the life and work of Lord Tennyson. You can refer, among other books, to the biography by his son; or to the *Encyclopaedia Britannica;* or to Warner's *Library of the World's Best Literature;* or to Moulton's *Library of Literary Criticism;* but in each case you will find a different point of view, and a different purpose served. It remains for you to choose the work that will furnish you most quickly with the facts which you desire to obtain.

Similarly, it is well to know that an article on any given topic in the *New International Encyclopaedia* will be briefer, and the treatment more likely to reflect the American point of view, than an article on the same topic in the *Encyclopaedia Britannica.* Again, for biographical sketches, except in the case of world-wide celebrities, it is better to consult some of the numerous biographical dictionaries than to refer to the general encyclopaedias. By observation and practice one comes to know where to look for the facts he requires, and the knowing where to

look may mean the saving of much precious time, not only to the student but also to the reference librarian.

XI

PERIODICALS IN THE LIBRARY.

55. A periodical is defined as "a magazine or other publication which appears at stated or regular intervals". The term is not applied to books which are published in parts or sections. Periodicals as we know them to-day are a comparatively modern invention, although the forerunner of the modern newspaper probably existed in such ancient institutions as the *Acta Diurna* (*Daily Events*) of the Roman empire. This was an official publication containing news of battles, elections, games, etc., which was posted daily in the forum and elsewhere at Rome for public perusal. But the real beginnings of periodical literature did not come until the seventeenth century. The *Frankfurter Journal*, a German weekly established in 1615, was probably the earliest newspaper. The first English newspaper to be published regularly was the *Weekely News*, established at London in 1622.

We seldom apply the term periodical to

newspapers, however, but use it rather to designate the magazines, quarterly, monthly, and weekly, which are a later development than the newspapers. These magazines may be roughly classed according to the frequency of issue.

Formerly the quarterly was the most popular, and the leading publications were of this class. Nowadays, however, the quarterly is usually not general in character, but devoted to some special field, as, for example, the *American Historical Review*, or the *Quarterly Journal of Economics*, although one or two quarterlies of more general character are still published.

The monthly is to-day the leader. Among the monthly magazines we may distinguish several distinct classes. The purely literary monthlies are few in number; the *Atlantic Monthly* is the leading representative in this field. Others, like the *North American Review*, are similar in character and contents to the old quarterly reviews. But the largest class is composed of the general illustrated magazines, of which the *Century*, *Harper's* and *Scribner's* represent the highest type.

The weekly magazines may also be divided

into groups. The literary weekly is represented by the *Nation,* practically alone in this field. Then there are the "journals of civilization", like the *Outlook* and *Independent,* which combine a review of current events with original articles of timely interest; and the weeklies which, like the *Literary Digest,* aim rather to reflect current opinion of the day as it is expressed in the daily press and the general magazines.

56. PERIODICALS IN THE LIBRARY. Periodicals have an important place in the reference work of any library. This is especially true in the natural sciences, where a textbook begins to be out-of-date almost before it is off the press. The latest discoveries, the newest inventions, the most recent theories, in any branch of learning are set forth in the current periodicals, and the student who would keep abreast of the times must have access to these publications. For this reason the library should subscribe to as many periodicals as its funds will allow, so selecting them as to receive those which will be of the most benefit to its particular class of readers. But this is not all,—the back numbers of the magazines received must be bound and placed on the shelves with the

other reference books, where they will be available for use and will be used, for their value does not end with the arrival of the succeeding issues.

57. PERIODICAL INDEXES. To make available the vast mass of accumulated material in a collection of bound magazines, something more than the indexes of the individual volumes is necessary. One cannot take the time to hunt through one hundred volumes of the *Atlantic Monthly* for a given article. There must be some more direct method of reaching the desired end. For this purpose general magazine indexes have been prepared, which index under one alphabet the entire contents of a selected list of periodicals.

For periodicals published between the years 1800 and 1900 the volumes of Poole's *Index to Periodical Literature* are available. These volumes are an index to subjects and not to authors, which lessens their value somewhat. Since 1900 we have both the Poole and the *Readers' Guide to Periodical Literature.* The latter indexes a slightly different list from that covered by Poole. It is published monthly, and is cumulative. That is, the March issue indexes periodicals

for the preceding three months, the June number for six months. The issue for December contains the index for the year's magazines. The annual volumes are cumulated by five-year periods in the same manner, a single large volume containing under one alphabet the entries for the years 1905-1909. The *Readers' Guide* indexes both by author and by subject, with many cross-references. While neither of the indexes named covers the whole field, the periodicals selected are those most likely to be of use in the average library. There are other similar indexes which deal with selected lists of magazines in more limited fields, and these are useful in libraries which specialize along particular lines.

XII

GOVERNMENT DOCUMENTS

58. The publications of the United States government form an important part of the equipment of any library which has been designated as a "government depository." These publications pour forth in a never ending stream from the government printing office at Washington, and while some of them have no great value in reference work, others are of the greatest use. This is especially true of the publications of the various scientific bureaus, and of the Departments of Commerce, Labor, Agriculture, the Bureau of Education, the Census Bureau, etc. The *Congressional Record* is useful in connection with work in debating, and many of the special reports of Congressional committees are of great value to the student of government or of economics.

So great is the variety of the public docments that only by actual experience in their use can one become familiar with their nature and importance. For that reason no

extended treatment is attempted here, but the student will be given work in the library which will, in a measure at least, acquaint him with the resources available in the publications of the United States government.

XIII

NOTE-TAKING

59. IMPORTANCE OF NOTE-TAKING. The taking of notes, both of lectures in the class-room and of assignments for outside reading, is a matter in which the student must work out his own system—or lack of it. Yet because so many college students suffer at this point from lack of system, a little advice may be of value, even though it be but fragmentary.

Note-taking in the class-room is necessary for two reasons. First, because it is an aid to the memory in retaining information given by the instructor, although this is not so essential as formerly, since well equipped libraries provide the student with the means of "reading up" on a subject for himself. The second reason is more important—the taking of notes enables the student to get the particular viewpoint of his instructor on the subject discussed. No two men view the same subject at exactly the same angle, and the personality of the lecturer is reflected in

his attitude towards his material. Even though the student were able to secure the essential facts involved outside the class, he would still miss this illuminating personal touch.

60. METHOD OF NOTE-TAKING. Unless the student has a knowledge of shorthand (and such a knowledge is a most valuable asset to the college student), it is not wise to attempt to take a verbatim report of a lecture. It is a waste of energy, and is likely to result in an inaccurate and garbled report. The listener is almost certain to fall behind the speaker and in his anxiety to catch up loses a phrase or an entire sentence which may be of vital significance. It is more important to get the speaker's thought than the precise language in which it is dressed; to get the outline about which the body of the lecture is built. To accomplish this requires close attention and some skill. At first the novice must not expect perfectly satisfactory results, but with continued practice one will soon become able to seize upon the essentials and reduce them to writing without losing a word of the speaker's remarks.

As an aid to speedy note-taking some au-

thorities advise the use of a system of abbreviations. That does not seem to be altogether wise, for it requires some mental effort to choose the proper abbreviations, and this is an objection, as all one's attention should be given to the speaker and the work of writing should be as nearly mechanical as possible. However, this is a detail which each one must work out for himself.

Probably in a majority of cases it is best not to attempt to take down notes in permanent form. Rapid writing is not always legible; and then transcribing is in itself a valuable exercise, tending to fix the subject more firmly in memory. Moreover, while transcribing the student may be able to expand his notes into more complete form, especially if the transcribing is done while the lecture is still fresh in mind.

Note-taking from assigned readings outside the class-room presents a slightly different problem. Here the time element does not (or at least should not) enter; speed is not essential, and since the student has the whole material before him, it is easier to decide what is essential and what may be passed over. It is advisable to read the assignment through before attempting to take

any notes. This gives a perspective which is of great value. Then re-read, and make notes which will serve as an adequate outline, but do not attempt too great fulness. It is sometimes well to extract striking sentences or brief summaries *in toto,* care being taken to use quotation marks in such cases. As this sort of note-taking is a more leisurely process than is the case in the classroom, it is possible with proper care to avoid the necessity of transcribing.

61. PRESERVATION OF NOTES. Almost as important as the method of taking notes is the method of preserving them for future use. Some sort of loose-leaf or card system, which admits of indefinite expansion and also of proper classification, is essential. It does not matter so much what the system is, so long as it permits of ready reference without loss of time. The card catalogue system seems to grow in favor because of the ease with which the cards on any division of the subject may be withdrawn from the file and carried in one's pocket, but it has some disadvantages. The many forms of loose-leaf note-books are widely used, but the problem of filing for reference in these is more difficult than in the case of cards. If a

loose-leaf book is used, the pocket size is preferable to the larger books.

Neither system is expensive. Covers for loose-leaf books can be bought for sums as small as seventy-five cents per dozen, or less than seven cents each. From this price one may go as high as one wishes, according to the quality of the covers used. Cases for filing cards come in small sizes for prices as low as eighty-five cents, and a very serviceable outfit can be purchased for about three dollars. Whatever system the student selects, two points should always be observed: The writing should be legible, and permanent notes should always be in ink. Pencilled notes are an abomination.

XIV

MAKING A BIBLIOGRAPHY

62. In the broadest sense biblography is the science of books and treats of the authors, materials, subjects, classification, and history of books; but as more commonly used the term bibliography may be defined as "a classified list of authorities or books on any theme". Such a list, or bibliography, should be appended to every college theme which has involved the consultation of a member of authorities.

The materials of which bibliography is composed may be divided broadly into two classes: (1) books; (2) magazine articles, newspaper clippings, etc. In compiling a bibliography on any subject the student should consult first the card catalogue in the library, which will reveal the material available in the books of the library; and then the periodical indexes, which will provide references to the bound magazines. Sometimes he will find that a bibliography on the subject has already been prepared by the libra-

rian, showing the resources of the library, and this will save him the trouble of further search.

When he has decided upon the books and articles of which he intends to make use, the student should prepare a list in proper form and submit it to his instructor for revision and advice. The proper arrangement is as follows:

I. Books. Arrange alphabetically, by authors, with the following entries: Author's name in full; title; pages (if only a part of the book treats of the subject in hand); publisher; place; date.

Example:

Dunn, Samuel O., Government ownership of railways. D. Appleton & Co. New York. 1913.

II. Magazine articles, etc. These may be arranged in either of two ways:

(a) Alphabetically by magazines, with the following entries: Magazine; volume; page; title of article; author's name.

Example:

Arena, 4:152-9, 273-92. Should the nation own the railways? C. Wood Davis.

(b) Alphabetically by authors, with the following entries: Author's name;

title of article; magazine; volume; page.

Example:

Davis, C. Wood, Should the government own the railways? Arena, 4:152-9, 273-92.

PART III

The Student's Library

XV

THE READING HABIT

63. College students, as a class, are not given to the reading habit. Whether or not they read less to-day than did their predecessors of a generation ago is beside the mark. In whatever way one may answer that question, the fact remains that college students nowadays do less reading, especially of a serious nature, than one has a right to expect of them. What are the causes contributing to this result, we will not attempt to discover just now. That there is room for improvement we will take for granted.

That the condition reflects discredit upon our colleges, there can be no doubt. A college does not, and cannot, claim to send forth graduates whose education is "finished", but it should send forth men and women so trained in scholarship that they will be able to continue their education through life. An important place in this after-education must be given to fellowship with books. No matter how deeply one

drinks of the fountain of human experience at first hand, he needs the information and inspiration which come from wide reading. And it is a sad commentary on our institutions of higher learning that so many of their graduates go out into life with no acquaintance, and with no desire for an acquaintance, with the works of the best minds of the ages.

It is quite true that wide reading does not always mean a broadened mind. Some there are who cry out that we read too much and think too little, and there is ground for their contention. But if one of average abilities depends entirely upon his own experiences and his own thoughts, he invariably narrows his horizon and perverts his views. Reading of the right sort is a stimulus to thought and not a deadener of it.

The time to acquire a taste for reading is in childhood. And here we have, perhaps, the secret of the lack of interest on the part of the present-day college student. He grows to young manhood in an atmosphere so filled with commercialism, and sport, and frivolities, that he has no time to cultivate the reading habit; and so coming to college he continues as he has begun. The sporting

columns of the daily newspaper are his chief mental diet. He does the assigned reading in connection with his various courses (when he cannot avoid it) as a sort of punishment which he must bear for the sake of attaining a fair rank and the bachelor's degree. But to read more than this he considers an unmitigated bore. The student who wastes the midnight electricity in reading the Elizabethan dramatists *because he enjoys it* is a *rara avis* in these days.

Yet, for the student who has been so unfortunate as to grow up in unlettered darkness, there is no better time to acquire the reading habit than in college. There opportunities are his which may never come again. The assigned work of his classes opens wide the door, if he will but enter in, and the treasures of the ages lie ready to hand in the college library, if he will but reach forth and take them. Long hours there are, even for the busiest student, which may be given to the companionship of great minds as poured out upon the printed page. But the "movies" call, or the card table is waiting, and the golden hours fly away unused. How to remedy this condition? Ah, there's the rub!

64. Reading may serve various purposes, and one's method in reading should be suited to the end in view. It is not intended here to give directions on "how to read". That subject has been worn threadbare long ago. A method of reading which is eminently adapted to one person may be all wrong for another. Follow your own methods, go your own gait, provided only that you *read.* Yet recognize that not all your reading serves the same end, and act accordingly.

Probably most of the reading done by college students comes into the category which we may designate as *reading for information.* The student is after facts and cares little for the form. Reading of this sort should be done as rapidly as possible, and one should cultivate the habit of distinguishing the essentials at a glance. Some suggestions have already been given upon this sort of reading in the chapter on note-taking.

Another sort of reading we may call *reading for inspiration.* And of this sort, alas! the college student does very little. In this case one reads not for the facts he learns, not even for the ideas received directly, but for the suggestive impetus which sets one's

own brain a-working, which makes one think for himself. It matters little who the author or what the book, so long as the desired result is attained. With one person it may be Ruskin, with another Carlyle, or Bergson, or Royce,—it may even be a bit of fiction such as Morris's *News from Nowhere.* Just as a brisk walk through the crisp autumn afternoon sets one's blood a-tingle, so the right book will fire one's sluggish brain to renewed activity.

Then there is the *reading for recreation,* the reading done for pure delight. It may be a stirring tale, or a bit of description, a beautiful poem, or a page of history,—just as the mood may dictate. It may be when the snow is on the ground and one sits snug by the fireside, or it may be in the shade of some noble tree in midsummer—time and place are forgotten and one lives in the realm of fancy, far from the cares of the world. Reading for recreation need not be "light" reading: history, biography, travel, all the realms of thought are open to one, and he may wander as he will, stopping here and there to gather a leaf for memory's garner.

If one but has a taste for reading, what an

added joy life brings! And how easy it is to acquire such a taste during one's college course if one will but take the first steps! Of all the opportunities a college offers none is greater, and none so often neglected, as this.

65. I have said I had no intention of giving advice on how to read. Neither will I tell you when to read. Many an author has laid down rules on these matters and, if you really need such instruction, I refer you to those writers. Whether you read systematically or with no system whatever; whether you read religiously every word on every page or "skip" long passages; whether you read in bed or on the street; whether you read before breakfast or after all the family are in bed, I care not at all. And it has always seemed to me the height of foolishness to attempt to lay down hard and fast rules for this sort of thing. If you have any intelligence at all and a taste for reading, you will solve your own problems in your own way, which will be the *best* way for your particular case.

But I will venture to point out that even the busiest person may find many an odd moment during the day which can profitably

be used for reading. And it is surprising what can be done in odd moments—how many a volume can be read in the course of a year by utilizing them.

So then, if you would have a constant source of pleasure always at hand; if you would continue your education after your four years in college are over; if you would make the acquaintance of the greatest minds the world has ever known: Learn to read, cultivate the reading habit, and, whatever else you may do, READ!

XVI

THE CHOICE OF BOOKS

66. Your library should reflect you own individuality. For that reason any specific advice on the choice of books is out of place. Certain general guiding principles may be laid down, but beyond that it would not be wise for me to go. For the same reason the many selected lists of the "world's best books" are of little value, except as they reveal the verdict of the centuries. To follow them blindly in choosing books for your library would be to substitute another's taste and judgment for your own, and that you should not do. Try to cultivate a taste for the best, by all means, but remember that in the end your personal preference should be your guide, whether you agree with others or not.

What I have said above does not apply to asking advice as to the best books on some subject with which you are not familiar. If, for example, you wish to purchase the best popular book on the birds of the United

States, it is quite proper to seek the opinion of some one who knows more about the subject than you do. That is a very different thing from buying Woolman's *Journal* simply because Ex-President Eliot says you ought to read Woolman.

In choosing for your library you should remember that some books are not worth owning. Such books may be fiction, or they may be works of a more pretentious character which are inaccurate, biased, or otherwise untrustworthy. These you cannot afford to give a place on your shelves. Books of the hour—the much-talked-of novel, the catch-penny compilation on some subject of temporary interest, books which you will read but once, if at all—these you can afford to go without, unless you have some special reason for including them in your collection. If you must read them, they can usually be secured at the public library.

Others there are which you can also afford to do without: the books which the wily agent assures you "you ought to have because Mr. Blank has bought a copy"; or the book which your friend recommends as "just the thing" for your library. Usually these

are just the books you do not want, and it is a waste of money to buy them.

Beware, too, of the pretty books, the books which will "look well on your shelves". Unless you mean to specialize in fine editions, or the book has some real value aside from its handsome appearance, you had better leave these alone.

Above all, *do not choose books which you will not use.* Better a score of books which you actually read than a thousand volumes that stand idly on your shelves.

Some books there are which you must have—a few good reference books: a dictionary, an atlas, and, if possible, an encyclopaedia. These need not be expensive, but you must have them if you have to have a real library; and use them you will if you do any reading worthy of the name. They are the foundation stones on which your whole library structure must rest.

Beyond this my advice will be very brief and in the line of what I have already said: Choose the books you like, the books you want, which you can live with year after year, finding in them a constant delight and companionship. Chosen thus, your collec-

tion of books, be it large or small, will be a real library, in which you can take lasting pride and satisfaction.

XVII

BUYING BOOKS

67. There is probably no subject connected with books and their use on which the average college student needs advice more than on the buying of books for his own library. Here we are on safer ground than in giving counsel on the choice of books, and some pretty definite rules may be laid down.

First of all, don't buy of agents. The average subscription book is a snare for the unwary and at best is a most unsatisfactory bargain. Usually you can purchase the same work, or one which will answer your purpose much better, at a decidedly smaller price from the regular bookseller. Too often the books offered by agents are of no value at all, being made for no other purpose than to sell. Even in the case of valuable works, which are at first offered "by subscription only", by waiting a few months you will find that a "cheaper edition" is put on sale in the regular way. So it is a safe rule never to purchase of a book-agent—unless you

wish to perform an act of charity; that is another matter.

Secondly, don't be persuaded into buying on the installment plan. Most of the objections already urged apply here, with the added one that in any case you pay an added amount for the installment privilege.

Again, don't buy books advertised in the magazines as "de luxe editions" at "greatly reduced prices". Real de luxe editions are almost never sold that way, and the books offered in such advertisements are cheaply made to catch the ignorant and unsuspecting public. Frequently they are merely reprints from old and worn plates of works which have long been on the market and can be purchased in good standard editions for less than these "bargains" are sold for.

Another rule which may frequently be followed is this: Do not buy "complete sets" of an author, unless you have plenty of money. There are few authors all of whose works you will need to own. Usually two or three representative volumes will be all you will care for. In the case of some writer who makes a special appeal to you, you can well afford to aim at completeness; but otherwise it is simply a waste of money.

Buy your books of some dealer in whom you have confidence. He will be able to give you good advice as to the best edition of any given work, and may be able to pick up real bargains for you, if he knows just what will be of interest to you.

Buy editions which bear the imprint of some reputable publisher. There are scores of well known firms whose name on the title page of a book is a guarantee of its accuracy and sound manufacture. Learn to look for these names and beware of books published by some unknown firm.

Often you will be given a choice between several copies of the same book, of varying cost. Here is a matter in which you must decide for yourself. Knowing your own resources, you must choose between a really fine book at a comparatively high price, and a cheaper but equally serviceable copy. For those who can afford it, there is a great delight in owning really fine books in handsome bindings. But usually one will do better to buy the less expensive editions, and with the money saved add other works to his library.

There are numerous good editions of standard works on the market at extraordi-

narily small prices. Such are the volumes of Everyman's Library, the Oxford World's Classics, and the Astor and Gladstone editions of the poets. Houghton Mifflin Company also issue excellent cheap editions of the poets whose copyright works they publish. In selecting these popular editions, care should be used to choose those in which the type is good—the various volumes in each of these series vary as to type and paper.

Watch for real bargains in new books. Several times a year the large bookstores have special sales in which they sell surplus stock at material reductions in price. Sometimes the "remainder" of an edition of a standard work which is discontinued for some good reason is thrown on the market at about half the regular price. By watching these special sales one can often secure some desired work at a merely nominal sum. Care should be taken, however, not to allow these tempting offers to lead you into buying something which you do not want and will not use.

If one is willing to buy second-hand copies, it will pay to visit the large second-hand bookstores in the cities. Here one can often

pick up for a mere trifle sound copies of books which are "out of print" and no longer available in the usual way.

Cultivate the habit of buying regularly. Lay aside a certain sum, if possible, each week or each month for the purpose. Twenty-five cents a week is a small sum, not hard to save by denying one's self some trifle, but in the course of a year it will mean a goodly addition to your library.

Choose the books which interest you and which you will read; learn to buy where you can be sure of getting sound, serviceable copies at a reasonable cost; plan your expenditures so that you can buy regularly; and the library built up in this way, a book at a time, will in a few years be a source of untold pleasure and value to you.

THE END